IN THE CLAIMS:

Please CANCEL claims 1-4, 6-11, 13-17, and 22-34 without prejudice or disclaimer.

Please replace AMENDED claims 5, 12 and 18 as follows:

1. 5. (Amended) A multichannel optical communication system for transmitting optical signals via an optical fiber comprising:

a plurality of individual WDM transmission channels;

a CDM transmission unit disposed within at least one individual WDM transmission channel of said plurality,

said CDM transmission unit comprising one or more CDM transmission channels;

a number of individual WDM transmission channels of said plurality, each transmitting a WDM optical signal on a unique wavelength within a designated bandwidth; and

said CDM transmission unit transmitting CDM optical signals within said designated bandwidth of said at least one individual WDM transmission channel

B1 a number of single frequency optical sources, each generating light within each individual WDM transmission channel transmitting said WDM optical signal, and a broadband optical source for generating light within said at least one WDM transmission channel transmitting said CDM optical signals;

wherein said broadband optical source has a discrete spectrum with equally spaced individual spectral lines, a spectral spacing between said spectral lines exceeding an electrical detection bandwidth of transmitted CDM optical signals; and

wherein said broadband optical source is a multimode laser comprising:

a lasing medium;

an optical filter for defining said designated bandwidth having a center wavelength at the center of said at least one individual WDM transmission channel; and

an optical cavity having length $L = c/2f_0$ where c is the speed of light, f_0 is said spectral spacing between adjacent spectral modes of said broadband optical source.

2. 12. (Amended) The multichannel optical communication system of claim 1 5 further comprising:

B2

a WDM multiplexer for multiplexing optical outputs of said individual WDM transmission channels for transmitting said WDM optical signals and one or more CDM transmission channels for transmitting said CDM optical signals;

at least one optical fiber link for transmitting said multiplexed optical outputs therethrough;

a WDM demultiplexer for demultiplexing said optical outputs into said individual WDM transmission channels and one or more CDM transmission channels;

a plurality of WDM receivers for receiving and detecting optical outputs from corresponding said WDM transmission channels; and

one or more CDM receivers for receiving and detecting optical outputs from corresponding one or more said CDM transmission channels.

3.

~~18.~~ (Amended) A multichannel optical fiber communication system for transmitting CDM optical signals via at least one WDM transmission channel comprising:

a first plurality of individual WDM transmission channels for transmitting WDM optical signals and at least one individual WDM transmission channel for transmitting said CDM optical signals,

each individual WDM transmission channel of said plurality comprising a single frequency optical source for generating light within said each WDM transmission channel for transmitting an optical signal on a unique wavelength within a designated range of wavelengths; and

B3 at least one coherence division multiplexed (CDM) transmission unit disposed within said at least one individual WDM transmission channel, said at least one CDM unit comprising:

a second plurality of CDM transmission channels,

a broadband optical source for generating light within said at least one WDM transmission channel for transmitting said CDM optical signals via said second plurality of CDM transmission channels,

a light splitter for dividing said light generated by said broadband optical source into one reference path and a number of optical paths equal to a number of CDM transmission channels,